STIC Search Report
Biotech-Chem Library

STIC Database Tracking Number: 137510

TO: Ann Lam **Location: REM 3C70** **Art Unit: 1641** **Friday, November 12, 2004** **Case Serial Number: 09/993314**	**From: Toby Port** **Location: Biotech-Chem Library** **REM-1A59** **Phone: 571-272-2523** **toby.port@uspto.gov**

Search Notes

Examiner Lam,

Here are the results of the search you requested.

Please feel free to contact me if you have any questions.

Toby Port

Please note the structure as defined by the applicants did not retrieve any relevant citations. I went on to do a dept search that found 7 citations, but they do not contain the structure described in the claim.

```
=> file reg; d stat que l11
FILE 'REGISTRY' ENTERED AT 12:58:46 ON 12 NOV 2004
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STRUCTURE FILE UPDATES:   10 NOV 2004  HIGHEST RN 778546-63-7
DICTIONARY FILE UPDATES:  10 NOV 2004  HIGHEST RN 778546-63-7

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

  Please note that search-term pricing does apply when
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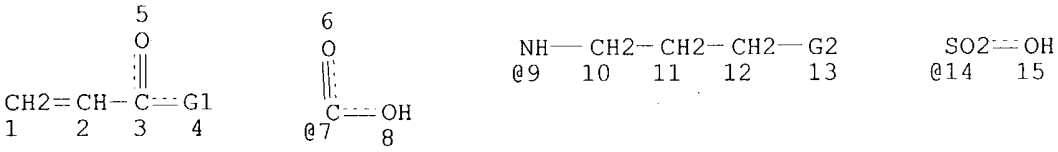
Crossover limits have been increased.  See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html


L9                STR
```



Structures defined in claim 13

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VAR G1=7/9
VAR G2=14/NH2
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  15

STEREO ATTRIBUTES: NONE
L11           60 SEA FILE=REGISTRY SSS FUL L9

100.0% PROCESSED 304335 ITERATIONS                    60 ANSWERS
SEARCH TIME: 00.00.02


=> d stat que l14
L9                STR
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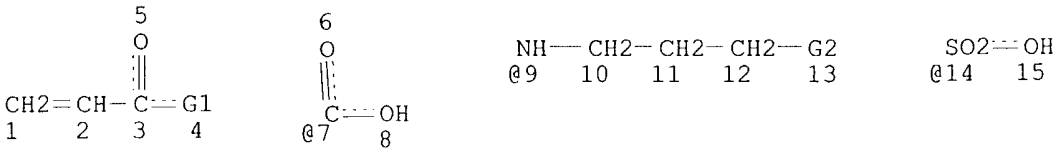

VAR G1=7/9
VAR G2=14/NH2
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 15

L14 = Defined structures combined with Polyacrylic (PACR) and Polyamide (PA) in the PCT (Polymer Class Term) field

STEREO ATTRIBUTES: NONE
L11 60 SEA FILE=REGISTRY SSS FUL L9
L13 5169 SEA FILE=REGISTRY ABB=ON PLU=ON PACR/PCT AND PA/PCT
L14 0 SEA FILE=REGISTRY ABB=ON PLU=ON L11 AND L13

=> file caplus; d que nos l16; d que nos l20; d que nos l21; d que nos l27
FILE 'CAPLUS' ENTERED AT 13:00:01 ON 12 NOV 2004
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FILE COVERS 1907 - 12 Nov 2004 VOL 141 ISS 20
FILE LAST UPDATED: 10 Nov 2004 (20041110/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

L9 STR
L11 60 SEA FILE=REGISTRY SSS FUL L9
L13 5169 SEA FILE=REGISTRY ABB=ON PLU=ON PACR/PCT AND PA/PCT
L15 9 SEA FILE=CAPLUS ABB=ON PLU=ON L11 AND L13
L16 0 SEA FILE=CAPLUS ABB=ON PLU=ON L15 AND MOBIL?

L9 STR

```
L11          60 SEA FILE=REGISTRY SSS FUL L9
L13        5169 SEA FILE=REGISTRY ABB=ON  PLU=ON  PACR/PCT AND PA/PCT
L15           9 SEA FILE=CAPLUS ABB=ON  PLU=ON  L11 AND L13
L20           0 SEA FILE=CAPLUS ABB=ON  PLU=ON  L15 AND ION EXCHANGE?


L9              STR
L11          60 SEA FILE=REGISTRY SSS FUL L9
L18        8424 SEA FILE=CAPLUS ABB=ON  PLU=ON  MOBILITY SHIFT ASSAY
L21           0 SEA FILE=CAPLUS ABB=ON  PLU=ON  L11 AND L18


L9              STR
L11          60 SEA FILE=REGISTRY SSS FUL L9
L18        8424 SEA FILE=CAPLUS ABB=ON  PLU=ON  MOBILITY SHIFT ASSAY
L27           0 SEA FILE=CAPLUS ABB=ON  PLU=ON  L11 AND L18


=> d que l19; d que l26
L13        5169 SEA FILE=REGISTRY ABB=ON  PLU=ON  PACR/PCT AND PA/PCT
L18        8424 SEA FILE=CAPLUS ABB=ON  PLU=ON  MOBILITY SHIFT ASSAY
L19           2 SEA FILE=CAPLUS ABB=ON  PLU=ON  L18 AND L13


L13        5169 SEA FILE=REGISTRY ABB=ON  PLU=ON  PACR/PCT AND PA/PCT
L22      128717 SEA FILE=CAPLUS ABB=ON  PLU=ON  ION EXCHANGE
L25      286691 SEA FILE=CAPLUS ABB=ON  PLU=ON  MOBIL?
L26           5 SEA FILE=CAPLUS ABB=ON  PLU=ON  L13 AND L22 AND L25


=> s l19 or l26
L28           7 L19 OR L26

=> d ibib ab l28 1-7

L28  ANSWER 1 OF 7  CAPLUS  COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER:         2004:62804  CAPLUS
DOCUMENT NUMBER:          140:316145
TITLE:                    Analysis of relative substances "in-1", "n-2" and
                          "n-3" synthetic phosphorothioate oligonucleotides with
                          IE-HPLC and PAGE
AUTHOR(S):                Li, Qilin; Zhou, Jian; Wang, Xiaoxing; Gao, Xiaoping
CORPORATE SOURCE:         Institute of Materia Medica, Chengdu Di Ao Group,
                          Chengdu, 610041, Peop. Rep. China
SOURCE:                   Yaowu Fenxi Zazhi (2002), 22(5), 371-375
                          CODEN: YFZADL; ISSN: 0254-1793
PUBLISHER:                Yaowu Fenxi Zazhi Bianji Weiyuanhui
DOCUMENT TYPE:            Journal
LANGUAGE:                 Chinese
AB   The relative substances for the synthesized phosphorothioate
     oligonucleotides of n=20-mer were analyzed using ion
     exchange HPLC and polyacrylamide gel electrophoresis (PAGE).  The
     ion-exchange column was Gen-PakFAX (4.6 mm x 100 mm),
     The mobile phase A was 62.5 mmol L-1 Tris.Cl, pH 8.15; the
     mobile phase B was 62.5 mmol.L-1 Tris.Cl, 2.5 mol.L-1 LiCl, pH
     8.15; the mobile phase C was 100% acetonitrile.  The condition
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of gradient elution was B: 30% → 50% 30 min, and C: 20%. The flow rate was 0.75 mL.min-1, the detection was done at 260 nm. PAGE condition were 20% polyacrylamide and constant power at 25 W to electrophoresis. The relative substances n-1, n-2 and n-3 for the synthesized phosphorothioate oligonucleotides could be separated one by one by using the **ion-exchange** HPLC anal. method, which had reference value for the purification and the anal. of phosphorothioate oligonucleotides.

L28 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:377085 CAPLUS
DOCUMENT NUMBER: 138:380383
TITLE: Methods and kits for detecting polymorphisms in nucleic acids using reverse phase HPLC or **ion exchange** chromatography
INVENTOR(S): Legendre, Benjamin, Jr.; Rudolph, Joseph G., III; Marino, Michael A.
PATENT ASSIGNEE(S): Transgenomic, Inc., USA
SOURCE: PCT Int. Appl., 62 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003040411	A1	20030515	WO 2002-US35409	20021104
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR				
US 2004035793	A1	20040226	US 2002-288406	20021104
EP 1451350	A1	20040901	EP 2002-778731	20021104
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				

PRIORITY APPLN. INFO.:

US 2001-338627P	P	20011105
US 2001-338041P	P	20011204
US 2002-370749P	P	20020405
WO 2002-US35409	W	20021104

AB Methods, systems, compns. and kits for improved detection of polynucleotides. In one aspect, there is provided a method for separating polynucleotides (such as DNA or RNA) using a liquid chromatog. separation device (such as a reverse phase column or an **ion exchange** column), contacting eluted polynucleotides with intercalating dye, and detecting (such as by fluorescence detection) dye bound to the eluted polynucleotides. The invention preferably uses a post-column reactor, such as a mixing tee, downstream of the separation column. Sensitivity of mutation detection by denaturing high performance liquid chromatog. (DHPLC) is enhanced.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:301189 CAPLUS

DOCUMENT NUMBER: 138:315802
TITLE: Methods and kits for detection of nucleic acid polymorphisms using temperature compression denaturing high performance liquid chromatography
INVENTOR(S): Taylor, Paul D.
PATENT ASSIGNEE(S): Transgenomic, Inc., USA
SOURCE: PCT Int. Appl., 75 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003031580	A2	20030417	WO 2002-US32042	20021007
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR				
US 2003225261	A1	20031204	US 2002-266906	20021007
PRIORITY APPLN. INFO.:			US 2001-327613P P	20011005
			US 2001-335478P P	20011101

OTHER SOURCE(S): MARPAT 138:315802

AB Methods, compns., and kits for separating heteroduplex and homoduplex DNA mols. in a test mixture by temperature-compression denaturing high performance liquid chromatog. (tcDHPLC). The method includes use of nitrogen-containing additives in the **mobile** phase that allow detection of diverse heteroduplex mols. to be performed at the same pre-selected temperature An example of a preferred additive is betaine. Standard mixts. of DNA fragments, such as mutation stds. containing known heteroduplex and homoduplex mols., can be used to select the concentration of additive and temperature Compns. and kits including the **mobile** phase, mutation stds., PCR primers, separation media, and DNA polymerase are also provided.

L28 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:202274 CAPLUS
DOCUMENT NUMBER: 126:303376
TITLE: Factors that affect the stability of protein-DNA complexes during gel electrophoresis
AUTHOR(S): Fried, Michael G.; Bromberg, Jennifer L.
CORPORATE SOURCE: Department of Biochemistry and Molecular Biology, The Pennsylvania State University College of Medicine, Hershey, PA, 17033, USA
SOURCE: Electrophoresis (1997), 18(1), 6-11
CODEN: ELCTDN; ISSN: 0173-0835
PUBLISHER: VCH
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The gel electrophoresis **mobility shift assay** is widely used for qual. and quant. characterization of protein complexes with nucleic acids. Often it is found that complexes persist within electrophoresis gels for much longer than expected on the basis of their free-solution lifetimes. Volume exclusion, direct interaction with gel

matrixes and the reduction of water activity by the gel have been proposed as mechanisms enhancing the stability of complexes during electrophoresis. We have used the well-characterized interaction of the E. coli cAMP receptor protein (CAP) with lactose promoter DNA to test these proposals. We found that the activity of water within polyacrylamide gels differs little from that of the buffer in which they were cast and that the dependence of the dissociation rate constant on water activity is too small for osmotic stabilization to contribute significantly to the lifetimes of CAP-DNA complexes. In addition, we found that a cross-linked gel matrix is not required for the stabilization of CAP-DNA complexes, that comparable stabilization is produced by three dissimilar polymers (linear polyacrylamide, dextran and polyethylene glycol), and that these polymers stabilize complexes more effectively than equivalent weight concns. of their cognate monomers. While these results challenge the notion that direct interaction with the gel matrix contributes to the stability of protein-DNA complexes, they are all features expected of excluded volume mechanisms.

L28 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:736175 CAPLUS
DOCUMENT NUMBER: 123:322990
TITLE: Effect of soluble aluminum ions on polyelectrolyte-alumina interaction. Kinetics of polymer adsorption and colloid stabilization
AUTHOR(S): Rignenbach, Eric; Chauveteau, Guy; Pefferkorn, Emile
CORPORATE SOURCE: Institut Charles Sadron, Strasbourgh, 67083, Fr.
SOURCE: Colloids and Surfaces, A: Physicochemical and Engineering Aspects (1995), 99(2/3), 161-73
CODEN: CPEAEH; ISSN: 0927-7757
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The authors studied the adsorption of high-mol.-weight polyacrylamide, hydrolyzed polyacrylamide, and polyacrylic acid on partially soluble colloidal Al2O3 in aqueous suspensions containing 10-3 N KCl and 3 x 10-4 N AlCl3.
The polymer solution and the colloidal suspension were mixed at pH 5.0, and the electrophoretic **mobility** and pH were recorded as a function of time. The polymer-Al ion interaction resulted in polymer ionization and complexation between carboxylic acid groups and Al ions characterized by a maximal degree of complexation close to 0.6. When the polymer was added to the oxide suspension, the authors also determined the concentration of the different species by potentiometric titration, and characterized the polyelectrolyte adsorption kinetics on colloidal Al2O3 by determining the variation with time of the amount of free and complexed polymers segments in the supernatant liquid phase. Two different situations were studied depending on the ratio of carboxylic acid to dissolved Al ions. For a low value of the ratio, the polymer was adsorbed quickly in a form which was highly complexed by Al ions pre-existing in the solution For a high value of the ratio, the adsorption was very slow. Before adsorption, the polyacid also underwent an Al-H **ion-exchange**, the extent of which depended on the rate of oxide dissoln.; it appeared that adsorption increased very strongly with complexation. From an study of the colloidal stability of the system and the zeta-potential of the colloid-polymer complex as a function of the amount of polymer added to the solution, the domain of electrosteric stabilization was determined and the instability near the point of zero charge was attributed to the electrostatic attraction between the pos. and neg. charged groups.

L28 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:483814 CAPLUS
DOCUMENT NUMBER: 122:260341
TITLE: Alternative to polyacrylamide gels improves the electrophoretic **mobility shift assay**
AUTHOR(S): Vanek, P. G.; Fabian, S. J.; Fisher, C. L.; Chirikjian, J. G.; Collier, G. B.
CORPORATE SOURCE: Georgetown Univ. Med. Cent., Washington, DC, USA
SOURCE: BioTechniques (1995), 18(4), 704-6
CODEN: BTNQDO; ISSN: 0736-6205
PUBLISHER: Eaton
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The authors outline a simplified protocol for the electrophoretic **mobility shift assay** utilizing TreviGel 500, a nontoxic alternative to polyacrylamide. The TreviGel 500 matrix combines the strength and resolution of polyacrylamide with the simplicity and flexibility of agarose in the casting of gels. Therefore, this method provides a simple, rapid and nontoxic alternative to current protocols for the investigation of protein:DNA interactions.

L28 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1986:226207 CAPLUS
DOCUMENT NUMBER: 104:226207
TITLE: Grafting of poly(methacrylic acid) onto polycaproamide and the production of modified fibers with **ion -exchange** properties
AUTHOR(S): Bogoeva-Gatseva, G.; Gabrielyan, G. A.; Gal'braikh, L. S.
CORPORATE SOURCE: USSR
SOURCE: Khimicheskie Volokna (1986), (2), 24-6
CODEN: KVLKA4; ISSN: 0023-1118
DOCUMENT TYPE: Journal
LANGUAGE: Russian
AB Methacrylic acid was graft polymerized on nylon 6 fibers in the presence of the catalytic system K2S2O8-Na2S2O3-Cu ion aquo or organic ligand complex. The system was most active when the fibers were treated with Cu complex prior to polymerization, and the optimal content of the complex was 0.001-0.002% (based on fiber weight). Organic complexes were more effective than aquo, and the phthalocyanine complex was the most effective among the former. Cu phenanthroline complex in combination with Na2S2O3 and K2S2O8 in 2.5:1 ratio fully inhibited the polymerization The initial rate of grafting was higher for unoriented fibers, due to increased swelling, but the yield of graft copolymer was higher for oriented fibers, due to inhibited chain termination resulting from decreased chain **mobility**. The **ion-exchange** capacity of the modified fibers increased to 5.85 mequiv/g as graft degree rose to 54.6%.

=> => file caold; d que nos l29
FILE 'CAOLD' ENTERED AT 13:01:45 ON 12 NOV 2004
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FILE COVERS 1907-1966
FILE LAST UPDATED: 01 May 1997 (19970501/UP)

This file contains CAS Registry Numbers for easy and accurate substance identification. Title keywords, authors, patent assignees, and patent information, e.g., patent numbers, are now searchable from 1907-1966. TIFF images of CA abstracts printed between 1907-1966 are available in the PAGE display formats.

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L11            60 SEA FILE=REGISTRY SSS FUL L9
L29             0 SEA FILE=CAOLD ABB=ON  PLU=ON  L11
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